UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,110	11/25/2003	Richard Paul Messmer	124383-2	1274

7590 01/17/2007 Cantor Colburn LLP 55 Griffin Road South Bloomfield, CT 06002	**EXAMINER**	
	JACOB, MARY C	
	ART UNIT	**PAPER NUMBER**
	2123	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Office Action Summary	Application No.	Applicant(s)
	10/723,110	MESSMER ET AL.
	Examiner	Art Unit	
	Mary C. Jacob	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication. even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 November 2003</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-28</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-28</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>19 July 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>3/24/04</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-28 have been presented for examination.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "50" has been used to designate both "Scheduling and Registration" and "Scheduling" in Figure 3. The reference character "20" has been used to designate both Display (Figure 1) and GUI (Figure 6).

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 33, element 578.

4.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5.   The disclosure is objected to because of the following informalities. Appropriate

correction is required.

6. ·   The Abstract, line 2, "is presented" appears to be unnecessary in the sentence.

7.   The Abstract, lines 9-10, "optimizing application communications with the model"

would be better if written, "optimizing application in communication with".

8.   The Abstract, line 17, "comprising" would be better if written, "comprises".

9.   The Abstract, line 19, a ")" is missing at the end of the sentence.

10.   The Abstract contains a description of the invention that is unclear for the same

reasons set forth below under 35 U.S.C. 112, second paragraph. Revision for clarity is

suggested.

11.   The specification, page 23, line 7 refers to element 69 when it should refer to

element 169 in Figure 6.

Claim Objections

12.   Claims 2, 12 and 28 are objected to because of the following informalities.

Appropriate correction is required.

13.   Claim 2, is missing a "." at the end of the claim.

14.   Claim 12, the end of the line ends with "measures .", which appears to be a

typographical error.

15.   Claim 28, "an operation data systems" should be revised for clarity.

Claim Rejections - 35 USC § 112

16.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

17.   Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

18.   Claims 1, 11, 18 and 21 recite the limitation "the selected business database

system" in lines 9-10. There is insufficient antecedent basis for this limitation in the

claims.

19.   Claims 1, 11, 18 and 21 recite, "to select at least one entity, task and resource

parameter of the simulation model" (Claims 1, 11, and 21, lines 12-14), "receiving a

selection of at least one entity, task and resource parameter of the simulation model"

(Claim 18, lines 11-12), and further, "defines bounds" and "generates values" "for" and

"based on" the "parameter selected". However, lines 9-11 recite, "generate a simulation

model based on the selected database system and the input data" where the "input

data" is "*attributes* of one or more entity, task and resource parameter" (lines 7-9). Since

the input data requires attributes of only *one* of an entity, task and resource parameter,

the simulation model therefore generated only requires attributes of only *one* of an

entity, task and resource parameter. Therefore, it is unclear how at "least one task,

entity and resource *parameter*" can be "selected" with respect to the objective function,

since the simulation model is generated based on the input data which is data

corresponding to the *attributes* of the parameters and not the parameters themselves,

and further, only requires attributes of only *one* of an entity, task and resource

parameter, not all three.

20.   Claims 3, 13, 20 and 23 recite, "select another at least one entity, task and

resource parameter from the simulation model", "define bounds of the other at least one

of the entity, task and resource parameter selected" and "generate values of the

objective function based on the other at least one of the entity, talk and resource

parameter selected". These limitations are vague and indefinite since the "simulation

model" is created using "input data corresponding to attributes of one or more entity,

task and resource parameter", therefore, the simulation model is generated based on

"attributes" of the parameters and not the parameters themselves. Further, the

simulation model only requires attributes of one of an entity, task and resource

parameter. Therefore, it is unclear how "at least one entity, task and resource

parameter" can be selected from the simulation model, how "bounds" of at least one of

the entity, task and resource *parameters* can be defined, and how values can be

generated for an objective function based on the other of at least one of the entity, task

and resource *parameter*.

21.   Claims 3, 13, 20 and 23 recite the limitation "the other" in lines 4-5. There is

insufficient antecedent basis for this limitation in the claims.

22.   Due to the number of 35 U.S.C. 112, second paragraph rejections, the examiner

has provided a number of examples of the claim deficiencies in the above rejection(s),

however, the list of rejections may not be inclusive. Applicant should refer to these

rejections as examples of deficiencies and should make all necessary corrections to

eliminate the 35 U.S.C. 112, second paragraph problems and place the claims in proper

format.

Due to the vagueness and a lack of a clear definition of the terminology and

phrases used in the specification and claims, the claims have been treated on their

merits as best understood by the examiner.

Claim Rejections - 35 USC § 101

23.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

24.   Claims 18-20 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claims 18-20 are directed to a method of

simulating a process of discrete events or tasks having a plurality of available resources

therewith. This claimed subject matter lacks a practical application of a judicial

exception (law of nature, abstract idea, naturally occurring phenomenon) since it fails to

produce a useful, concrete and tangible result. Specifically, the claimed subject matter

does not produce a tangible result because the claimed subject matter fails to produce a

result that is limited to having a real world value rather than a result that may be

interpreted to be abstract in nature, as, for example, a thought, a computation or

manipulated data. More specifically, the claimed subject matter provides for "generating

a simulation model", executing a simulation engine to "generate values" and "performing

a simulation of the process by processing the simulation model". These produced

"results" remain in the abstract and thus, fails to achieve the required status of having a

real world value since it does not "generate" any output data or store values of output

data for a practical use in a real world application.

Claim Rejections - 35 USC § 103

25.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

26.   Claims 1-4, 6, 8, 9, 11-16, 18-26 and 28 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Son et al ("Automatic Generation of Simulation Models from

Neutral Libraries: An Example", Proceedings of the 2000 Winter Simulation

Conference", Volume 2, pages 1558-1567, Orlando, FL, December 2000) in view of

Kosiba et al (US Patent 7,103,562).

27.   As to Claims 1,11, 18 and 21 Son et al teaches: a system to simulate a process

of discrete events or tasks having a plurality of available resources associated

therewith, the system comprising: a database to store a plurality of models, each model

including a plurality of one or more entity, task, and resource parameter (Figure 1,

"Library of Simulation Objects for All Applications"; section 1, paragraph 2, lines 1-12;

Figure 3; section 4, 4.1,4.2 and previous descriptions of information and tables used to

populate the database tables section 3); a model application (Figure 1, "Model Builder")

in communication with the database and configured to receive commands from a user,

to retrieve one of the plurality of models and the corresponding plurality of one or more

entity, task, and resource parameter in response to a user command (section 1,

paragraph 2, lines 12-15, paragraph 3, lines 1-3; Figure 1, "User", "Model Description

(Neutral); section 5.1, lines 1-4; Section 5.5) , to receive input data corresponding to

attributes of one or more entity, task, and resource parameter from a business database

system (Figure 1, "Shop Floor (Real Data); Figure 4; section 5.1, paragraph 1, lines 4-9;

section 5.2, paragraph 2, lines 10-11), and to generate a simulation model based on the

selected business database system and the input data (section 1, paragraph 3, lines 3-

6; Figure 1, "Model Builder", "Specific Simulation Model"; section 5, introductory

paragraph; section 5.1, paragraph 1, lines 4-9; section 5.2, paragraph 2, lines 10-11;

section 5.3, lines 13-14; Figure 5); and a server to perform a simulation of the process

by processing the simulation model and to generate an output data file containing

output data representative thereof, including performance measurements (Figure 1,

"Engine Simulation", "Data Analyzer", "Animation Visualization"; section 3.6; section 5.4,

Figure 6; Conclusion, lines 9-12).

28.   Son et al does not expressly teach: an optimizing application in communication

with the model application and configured to receive commands from a user, to select at

least one entity, task, and resource parameter of the simulation model with respect to

an objective function, to define bounds of at least one of the entity, task, and resource

parameter selected, and to generate values for the objective function based on the at

least one of the task, and resource parameter selected.

29.   Kosiba et al teaches a system that can easily produce accurate staff plans,

budget plans and behavioral analysis for a business (column 3, lines 5-8) that

overcomes the limitations of prior art discrete event simulation systems that are

complex to develop, difficult to use and too computationally slow for budget and staff

planning (column 2, lines 51-67), wherein a discrete event simulation model is created

based on inputs such as available resources and the performance of the resources

(column 12, lines 35-65), an optimizing application in communication with the model

application and configured to receive commands from a user, to select at least one

entity, task, and resource parameter of the simulation model with respect to an objective

function, to define bounds of at least one of the entity, task, and resource parameter

selected, and to generate values for the objective function based on the at least one of

the task, and resource parameter (column 24, line 46-column 25, line 45).

30.   Son et al and Kosiba et al are analogous art since they are both directed to the

building of a discrete event simulation model for a business process for the purpose of

performance analysis.

31.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system to simulate a process of discrete events as

taught by Son et al to include the optimizing application that generates values for an

objective function as taught in Kosiba et al since Kosiba et al teaches a system that can

easily produce accurate staff plans, budget plans and behavioral analysis for a business

(column 3, lines 5-8) that overcomes the limitations of prior art discrete event simulation

systems that are complex to develop, difficult to use and too computationally slow for

budget and staff planning (column 2, lines 51-67).

32.   As to Claims 2, 12, 19, and 22, Son et al in view of Kosiba et al teach: wherein

the objective function comprises a combination of system financial performance

measures and process performance measures (Kosiba et al: column 24, line 46-column

25, line 45).

33.   As to Claims 3, 13, 20 and 23, Son et al in view of Kosiba et al teach: wherein

the optimization application is further configured to receive commands from a user to

select another at least one entity, task, and resource parameter of the simulation model

with respect to an objective function, to define bounds of the other at least one of the

entity, task, and resource parameter selected, and to generate values for the objective

function based on the other at least one of the entity, task, and resource parameter

selected (Kosiba et al: column 3, lines 30-35; column 22, lines 32-35; column 24, line 41-column 25, line 45).

34.   As to Claims 4, 14 and 24,Son et al in view of Kosiba et al teach: the optimizing application in communication with the model application and configured to receive commands from a user further to generate financial performance data based on the values generated for the objective function (Kosiba et al: column 25, lines 46-58).

35.   As to Claims 6, Son et al in view of Kosiba et al teach: wherein at least one of the model application and the optimization application is interactive with a user (Kosiba et al: Figure 9, element 990; column 22, lines 32-35; column 24, lines 56-57; Son et al: section 1, paragraph 2, lines 12-15; Figure 1, "User"; Figure 2 and description; section 5.5; Conclusion, lines 8-12).

36.   As to Claims 8, 15 and 25, Son et al in view of Kosiba et al teach: wherein the model application performs processing on the input data corresponding to attributes of one or more entity, task, and resource parameter from the business database system, the processing including determining relationships within the input data (Son et al: section 4.2; section 5.1, paragraph 1, lines 4-9; section 5.2, paragraphs 1-3; section 5.3, lines 9-14).

37.   As to Claims 9, 16 and 26, Son et al in view of Kosiba et al teach: The system according to claim 8, wherein the processing includes performing distribution curve fitting on the input data using a goodness of fit technique (Kosiba et al column 10, lines 59-62; column 11, lines 27-42; column 12, lines 35-38, wherein the input data that is used to create the discrete event simulation model is processed).

38.   As to Claim 28, Son et al in view of Kosiba et al teach: means for updating the model database with performance and processing details from an operation data system (Kosiba et al: column 13, lines 50-64).

39.   Claims 5, 7, 10, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al in view of Kosiba et al as applied to claims 1, 11 and 21 above, and further in view of Fontana et al (US Patent 6,167,564).

40.   Son et al in view of Kosiba et al teach a system to simulate a process of discrete events or tasks with a plurality of resources associated therewith including a model application and an optimizing application, wherein commands from a user are received through a graphical user interface (Son et al: section 1, paragraph 2, lines 14-15; Figure 2 and description; section 5.5; section 6, lines 9-12). Son et al further teaches that the neutral libraries of simulation components would speed and enable internet-based simulation services (Abstract, lines 3-6; section 1, paragraph 2, lines 14-15).

41.   Son et al in view of Kosiba et al do not expressly teach (claim 5) wherein at least one of the model application and the optimization application are located at a web server; (claim 7) wherein the interacting with a user is performed over the Internet and (claims 10, 17 and 27), the graphical user interface is located remote from the database.

42.   Fontana et al teaches a system for integrating software development tools and applications into a computer system in order to build, deploy and maintain enterprise business process applications in a heterogeneous development framework that

overcomes the prior art limitations of integrating only those tools from the same vendor

or the lack of tool interoperability wherein (claim 5) a model application is located at a

web server (Figure 5, element 66; column 8, lines 54-55) wherein (claim 7) the

interacting with a user is performed over the Internet (Figure 2, elements 30, 29; Figure

5, elements 72, 73; column 9, lines 1-3) and wherein (claims 10, 17 and 27) the

graphical user interface is located remote from the database (Figure 2, element 30;

column 5, lines 37-48).

43.   Son et al in view of Kosiba et al and Fontana et al are analogous art since they

are all directed to the modeling of a business process.

44.   It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system to simulate a process of discrete events or

tasks including a model application and an optimizing application as taught by Son et al

in view of Kosiba et al to further include the location of a model application or

optimization application at a web server, interacting with a user over the internet and

wherein the graphical user interface is located remote from the database as taught by

Fontana et al since Fontana et al teaches a system for integrating software

development tools and applications into a computer system in order to build, deploy and

maintain enterprise business process applications in a heterogeneous development

framework that overcomes the prior art limitations of integrating only those tools from

the same vendor or the lack of tool interoperability wherein a model application is

located at a web server (Figure 5, element 66; column 8, lines 54-55).

Conclusion

45.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

46.   Delen et al ("Integrated Modeling and Analysis Generator Environment (IMAGE): A Decision Support Tool", Proceedings of the 1998 Winter Simulation Conference, Vol. 2, pages 1401-1408, December, 1998) teaches the automatic generation of simulation and optimization models from information captured in an enterprise modeling set to model business processes in a decision support tool.

47.   Hlupic et al ("Business Process Modeling and Analysis Using Discrete-Event Simulation", Proceedings of the 1998 Winter Simulation Conference, Vol. 2, pages 1363-1369, December 1998) teaches simulation for modeling business processes.

48.   Stritzinger ("A Component-Based Modeling Approach", Proceedings of the WOON '96, St. Petersburg, Russia, June 20-21, 1996) teaches component-based modeling wherein a user interface is used to develop a model with component building blocks wherein the components can be manipulated by a user.

49.   Adler (US Patent Application Publication 2002/0169658) teaches a set of modeling and analysis tools is provided to help companies make informed strategic decisions in complex, rapidly changing market environments.

50.   Bierenbaum (US Patent 6,970,844) teaches a system, method and carrier medium for modeling a Financial Service Organization (FSO) business in a computer software program and for storing the model of the FSO business in a database.

51.   Pasadyn (US Patent 6,738,682) teaches a method for scheduling activities in a

manufacturing system including defining a plurality of observed states associated with

the manufacturing system and the use of an objective function.

52.   Kassatly et al (US Patent 5,487,131) teaches the construction of models for an

information exchange system and further simulation to determine alternate data paths to

reduce processing time thereby optimizing performance.

53.   Ernst et al (US Patent 5,890,133) teaches a method and a device for the

dynamic optimization of business processes, the business process instances of a

business process being managed by a workflow management computer system.

54.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Mary C. Jacob whose telephone number is 571-272-6249. The examiner

can normally be reached on M-F 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Mary C. Jacob
Examiner
AU2123

MCJ
1/11/07

ZOILA CABRERA
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100

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